



RESEARCH ARTICLE

PSYCHIATRY TRAINEES' AWARENESS OF PSYCHOLOGICAL STUDIES

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ABSTRACT

Psychiatry residency training in the United States encompasses a 4-year curriculum after medical school, which enables the trainee to practice independently. Despite the breadth and depth of training available, illustrative psychological concepts revealed by famous studies go overlooked. This gap in education can become more pronounced when the trainee previously was educated outside the Western Hemisphere, limiting their prior exposure to experiments that shaped psychological thinking in the western world. Our study sheds light on this phenomenon and proposes remedies to fill this possible gap in education, leading to more well-rounded psychiatrists regardless of their country of origin.

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INTRODUCTION

United States post-medical school residency in the field of psychiatry encompasses a broad range of training regarding all aspects of the field and should act as a catalyst for future learning (Hogben, 1972). In general terms, a psychiatrist is a medical doctor able to conduct psychotherapy and prescribe medications and other medical treatments. On the contrary, a psychologist usually has an advanced degree, most commonly in clinical psychology, and treats mental disorders with psychotherapy (American Psychiatric Association, 2018). This study was undertaken because concepts from the specific field of psychology that serve as the backbone for certain psychiatric modalities can go overlooked in the formal training of psychiatrists in the United States. The possible lack of basic formal exposure to this area can particularly hinder trainees from outside the Western Hemisphere, because their prior exposure to experiments that shaped psychological thinking in the western world may be limited. This idea served as our hypothesis. We tested this concept via a survey of trainees at a typical psychiatry residency program in the mid-western United States where over half went to both foreign undergraduate and medical schools before coming to psychiatry residency training.

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MATERIALS AND METHODS

A written survey of all trainees at an Accreditation Council for Graduate Medical Education accredited psychiatry residency program in the mid-western United States city of Springfield, Illinois was conducted. The anonymous survey was issued in early January 2018 with all surveys returned no later than late February 2018. Informed consent to be surveyed was included, and trainees were assured that no negative impact on their training would occur should they choose not to participate. An institutional review board waiver to conduct the survey was gathered beforehand as well.

Gender and year of training (year 1 thru 4 or above) were asked. Importantly, whether the trainee graduated from a United States based undergraduate or medical school was also asked. This question also included combined undergraduate/medical school curricula. Finally, a list of 25 famous psychological experiments/studies/case explorations were presented, and the trainees were asked if they are at all familiar, at least barely, with them. Brief experiment details along with the well-known experiment title were given as in Table 1 (Mook, 2004; Corsini and Ozaki, 1984). Trainees were asked if they felt more instruction was needed regarding the experiments in general, and if they had familiarity with these famous studies from their undergraduate education or even earlier.

Table 1. Famous Psychological Studies and Descriptions

- A Class Divided - a third grade teacher developed an exercise to help her Caucasian students understand the effects of racism and prejudice
- Asch Conformity Study - groundbreaking study that was designed to evaluate a person's likelihood to conform to a standard when there is pressure to do so
- Bobo Doll Experiment - controversial study to prove that human behavior is largely based upon social imitation rather than inherited genetic factors
- Car Crash Experiment - study about how deceiving memories can be and evaluates whether wording questions a certain way could influence a participant's recall
- Cognitive Dissonance Experiment - an internal conflict produces an inherent feeling of discomfort leading to a change in one of the attitudes, beliefs or behaviors
- Fantz's Looking Chamber - infants with something of interest near them will generally look at it
- Hawthorne Effect - human subjects in an experiment change their behavior simply because they are being studied
- Kitty Genovese Case - "Bystander Effect" discovery; the more bystanders that are present in a social situation, the less likely it is that anyone will step in and help
- Learned Helplessness Experiment - classical conditioning where the process by which an animal or human associates one thing with another
- Little Albert Experiment - among the most unethical psychological experiments of all time, conditioning a nine-month-old child to develop an irrational fear
- Magic Number Seven - "Miller's Law" discovery; the number of objects an average human can hold in working memory is 7 ± 2
- Pavlov's Dogs - findings on classical conditioning led to a whole new branch of psychological study
- Robbers' Cave - unethical study about social unit formation in young boys; "Lord of the Flies" movie based upon findings
- Ross' False Consensus Effect Study - focuses on how people can incorrectly conclude that others think the same way they do, or form a "false consensus"
- The Schacter and Singer Experiment on Emotion - studied ways in which cognition influences human emotion and how people interpret their physiological states
- Selective Attention / Invisible Gorilla Experiment - study proving that humans often overestimate their ability to effectively multi-task
- Stanford Prison Study - showed how much human behavior is situational and that people will conform to certain roles if the conditions are right
- Stanley Milgram Experiment - humans are conditioned to obey authority and will usually do so even if it goes against their natural morals or common sense
- Surrogate Mother Experiment (Harry Harlow's Study) - physical body contact is a more important aspect of the parent-child bond than the provision of basic needs
- The Good Samaritan Experiment - When the subject was in no hurry, nearly two-thirds stopped to help where only one in ten did so when hurried
- The Halo Effect Experiment - people generally assume that others who are physically attractive are more likely to be intelligent, friendly, and display good judgment
- The Marshmallow Test - study with children as to whether deferred gratification can be an indicator of future success
- The Monster Study - unethical methods that were used to determine the effects of positive and negative speech therapy on children
- Violinist at the Metro Experiment - pedestrians rushed by without realizing that the musician playing at the entrance to the metro stop was Grammy-winning musician
- Visual Cliff Experiment - study of depth perception in infants

RESULTS

Overall 25 of the 28 possible trainees participated (89.29%) with 17 out of 20 females (85%) and all 8 males responding. There were no significant differences in terms of gender as females on average knew 30.82% of the studies surveyed compared to males at 30.5%. Those in their last years of training (year 4 and above) knew 43.42% or about 10 to 11 out of the 25 studies. First and third year trainees knew between 6 and 7, and second year trainee respondents 7 to 8 out of the 25. In terms of differences between trainees in different years, there was no significant difference between those in their third year and above (mean = 8.85, standard deviation = 5.08) versus those in the first two years of training (mean = 6.42, standard

deviation = 2.71). A two-sample t-test was conducted between the two groups with $p < 0.05$, showing two-sample $t(19) = 1.51$ for t-value, and a p-value = 0.15. All 13 United States trained undergraduates responded and were familiar on average with 40.31% of the studies. Four United States undergraduates went to a foreign medical school, although all in the Western Hemisphere. They were familiar with 34% on average; while those United States undergraduates that continued their medical education in the United States knew an average of 43.11%. Those that went to both a non-Western hemisphere undergraduate as well as medical school were only familiar with 20.33% on average. Altogether the entire trainee cohort responding knew 30.72% on average, which represents being familiar with between 7 and 8 of the possible 25 studies asked. In terms of differences between those who went to a foreign medical school and undergraduate school (mean = 5.08, standard deviation = 1.56) versus those who were trained in the United States (mean = 10.08, standard deviation = 4.54), there was a significant difference.

A two-sample t-test was conducted between the two groups, showing two-sample $t(15) = 3.75$ for t-value, and a p-value = 0.002 ($p < 0.05$). Only four scores in the entire responding cohort of trainees surveyed were above 9 studies known. All of these were those trained in the United States for both undergraduate and medical school. Removing those four trainees from the sampling, the entire trainee cohort that responded knew just 20.64% on average, representing being familiar with between 5 and 6 of the possible 25 studies asked. Again, after removing those four trainees and then recalculating the difference between foreign trainees (mean = 5.08, standard deviation = 1.56) and United States based trainees (mean = 7.56, standard deviation = 1.67), a significant difference was still found. A two-sample t-test showed two-sample $t(17) = 3.45$ for t-value, and a p-value = 0.003 ($p < 0.05$). A high score of 20 out of 25 studies known (year 4 trainee) and a low of 3 out of 25 studies known (year 1 trainee) were found, with the most common scores being 4, 6, and 8 out of 25 respectively. All 25 respondents were familiar with "Pavlov's Dogs." Eleven out of the 13 trainees who went to United States undergraduate programs knew "Hawthorne Effect" and "Learned Helplessness Experiment." Ten out of the 13 knew "Kitty Genovese Case" and "Little Albert Experiment," compared to only 2 out of 12 foreign educated trainees. Furthermore, all trainees felt more instruction from the psychiatry residency program was needed regarding all the experiments in general. Lastly, all the trainees cited any of their familiarity with some of these famous studies came from their undergraduate education.

DISCUSSION AND CONCLUSION

This study showed a significant difference in familiarity with 25 famous psychological experiments/studies/case explorations between those who went to a foreign medical school and undergraduate school versus those who were trained in the United States. Those trained in the Western Hemisphere were more familiar, likely because of their prior exposure to such experiments that shaped psychological thinking in the western world. This difference was even upheld when the top four scorers from the United States cohort were removed. The gender and level of training in the psychiatry residency program did not seem to have impact, as the trainees referred to their familiarity coming from prior exposure such as their undergraduate education.

This aspect hinders trainees previously educated outside the Western Hemisphere before coming to psychiatry residency training in the United States, as their prior exposure to experiments that shaped psychological thinking in the western world are relatively more limited. As our hypothesis of a difference in our trainees proved true in this study, it can possibly carry more impact as psychiatry residency positions are increasingly filled by foreign graduates (Clinical Psychiatry News, 2007 and 2008). While the assessment of residency candidate quality is not based on this prior exposure, and likely should not be in our estimation, a possibility exists for further training during psychiatry residency in these psychological principles (Lehrmann, and Walaszek, 2008). Residents in our program were certainly not opposed to this in our study. In addition, coursework to at least expose trainees to these concepts would have minimal impact on cost of training, being not as time intensive as other training requirements (Magen, 2000). Other researchers have uncovered various broad ranging aspects of psychiatric training that need evaluated, including psychotherapy, palliative care, primary care, and even ethnic issues (Stovel, 2013; Winer 2013; Hales 1980; and King *et al.*, 1999). While our study is limited by its small size at one program in a specific geographic area of the United States, we feel that our study can contribute a unique perspective to the ongoing necessity for training programs to continually reassess themselves to improve quality. Basic familiarity with underlying psychological principles is one dimension of training that psychiatry programs must ensure their trainees master.

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